ASSOCIATION BETWEEN SERUM CHOLESTEROL AND PLASMA PFOA AND PFOS LEVELS IN A MIDDLE-AGED DANISH POPULATION

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Background:
Perfluorooctanoate (PFOA) and perfluorooctane sulfonate (PFOS) are used in a variety of industrial and consumer products and have been detected worldwide in human blood. Recent studies - mostly based on highly exposed populations - have indicated that PFOA and PFOS may affect serum cholesterol levels. Elevated cholesterol levels are associated with increased risk of cardiovascular diseases.

Aims:
The aim of the present study is to investigate the association between serum cholesterol and plasma PFOA and PFOS levels in a middle-aged Danish population.

Methods:
The study population is 724 individuals (635 men and 89 women) from the Danish Diet, Cancer and Health cohort. Blood samples were donated by the cohort members at the time of enrolment between 1993 and 1997 and stored in a biobank at -150°C. For the study group plasma levels of PFOA and PFOS and serum levels of cholesterol have been determined. None of the 724 individuals takes cholesterol reducing medication. The association between PFOA and PFOS plasma levels and serum cholesterol levels will be analysed by regression techniques. The regression analyses will be adjusted for potential confounders. Also, we will investigate whether gender, body mass index and prevalent diabetes modifies the association between cholesterol and PFOA and PFOS.

Results
The study population of 724 individuals is 50-65 years of age with a mean serum cholesterol level of 231.5 mg/dL. Mean plasma PFOA and PFOS level are 7.1 ng/mL and 35.9 ng/mL, respectively. Results of the regression analyses will be obtained in spring 2011 and will be presented at the ISEE conference in September 2011.

Conclusions: Conclusions will be presented at the ISEE conference in September 2011.